

Eva and the **Crystal Radio**

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Domenic LoPresti

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Ages 8-12

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Trial and Error

It was a warm afternoon, with sunlight streaming in the open garage door. The light was reflecting off the wires, gears, and tools scattered about the workbench. Behind her safety glasses, intently focused, and hovering over her latest project, 12-year-old Eva was tightening the last bolt.

Brushing back a few loose strands of hair that fell out of her ponytail, she was finishing preparations to begin the fourth test of the day.

Barreling down the sidewalk from a few houses down, James skidded his bicycle to a dramatic stop in her driveway. He was happy when he saw Eva exit a moving truck in that exact spot last

week, knowing he was finally going to have someone his age to hang out with in the neighborhood. Seeing the open garage door was all the invitation he needed. He laid the bike in the grass next to the driveway. The bike had extended pegs on the rear wheel and no kickstand, so it laid at an awkward angle with one wheel in the air, still spinning. The sound of the freewheel mechanism clicking slowed to a stop.

“Hey, what are you working on?” James asked, walking up the driveway. He removed his helmet and tossed it towards the bike.

Looking up from her work and turning to James, Eva was not shy and always excited to explain her projects. “Automatic cat feeder.” Nodding her head towards the corner of the garage she continued, “for DB.”

DB was lounging on a high shelf in the corner of the garage, lazily licking his paw. His lack of enthusiasm towards the project did not discourage Eva. He was often cool and casual about several activities going on around him. It

always took a lot of effort to get DB excited, or at the very least, a laser pointer.

“Watch this!” Eva exclaimed, pushing a button on the front of her machine. The sound of a relay clicked and a can of cat food slid out and down a ramp, into a rubber gripper.

What was supposed to happen next was that the lid would be removed by a motorized cutting wheel. Afterwards, the rubber gripper would flip the can and the cat food inside would drop directly into DB’s bowl waiting underneath. Finally, the contraption would send the empty can into a trash bin within the machine.

Unfortunately, instead of dispensing cat food, the machine dispensed a brief shower of bright sparks followed by a puff of gray smoke from within its enclosure. Everything ground to a pitiful halt. The can remained intact, firmly clamped by the rubber grippers.

DB looked down toward the workbench, yawned with predictable disappointment, and closed his

eyes for a nap. His tail lifted from its dangling position and curled neatly around his body.

Poking it with his finger, James asked playfully, “What else does it do?”

No stranger to sarcasm and remaining undaunted, Eva replied, “Inventing requires trial and error.”

James walked inside to garage, gazing at the shelves filled with strange inventions and supplies - half-finished robots, motors, electrical components, and circuit boards. Blueprints and diagrams were pinned to the walls and James couldn't tell if they were instructional or intended as art. He supposed they were both.

Impressed by what he saw and whistling in awe as he paced along the wall, James said, “Your garage is like a mad scientist's lab.”

Eva smiled softly at, what was to her, a very nice compliment. “It was my Grandpa's workshop. He was an engineer and an inventor. He passed away last year, and I guess I kind of took over.”

“I’m James.”

“I’m Eva.”

With the two properly introduced, James returned to his tour of space. He pulled back the flap of a cardboard box on a low rack to peek at the contents inside. He saw a pile of small motors. Some of them had their casings removed, exposing the intricate wires and gears within. Despite the impressive amount of variety in what he saw around him, he had to admit that everything was still very clean and organized.

Closing the box flap, he asked, “So, what kinds of things did he make?”

Eva’s eyes turned up toward the packed shelves and racks lining the walls of the garage workshop. “All sorts of things, really,” she said. “He was always fixing stuff or creating something to solve a problem.”

Returning to look downward at the heap of parts that used to be her latest cat feeder invention, she

noted “I guess sometimes you make problems too” in a disappointed tone.

She went on, “He always joked that electronics work because there’s a tiny bit of magic smoke is inside. You never want to let the smoke out because if you do, it’s impossible to put it back in and the thing won’t work anymore.”

James looked closely at the side of the cat feeder, poking it. “And you let the smoke out on this one?”

“Yep,” Eva sighed.

“It’s still way cooler than anything I’ve made,” James admitted.

Smiling, Eva continued, “He used to say ‘If I don’t like something about my world, I change it.’ Well, DB is annoyed if I’m late getting his food, so I wanted to change that. Making this seemed easier than training DB to use a can opener himself.”

James wandered along the walls of the workshop. He picked up an old, worn notebook and flipped through its yellowed pages that were filled with sketches. “That’s really cool.”

“I want to be an inventor like him. I’ve always been interested in science and bringing ideas to life.”

“So, what do you do when it doesn’t work?” James asked, looking at the cat feeder.

Eva turned her eyes to the broken machine. Her moment of disappointment was short lived.

“You try again.”